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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,016	06/15/2001	Patrick J. Murphy	00CR140/KE	9752

26383 7590 08/23/2005

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EXAMINER	
AL AUBAIDI, RASHA S	
ART UNIT	**PAPER NUMBER**
2642	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/883,016	MURPHY ET AL.	
	Examiner	Art Unit	
	Rasha S. AL-Aubaidi	2642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6, 9-11, and 13-20* is/are rejected.

7)☒ Claim(s) *7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on June 15, 2005 has been entered. Claims 3, 7-10, 13, and 15-16 have been amended. Claim 12 has been canceled. No claims have been added. Claims 1-11 and 13-20 are pending in this application, with claims 1 and 9 being independent.

Allowable Subject Matter

2. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

3. Claims 1-3, 5, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gehring et al.

Regarding claim 1, Gehring teaches a direct conversion quadrature receiver (reads on element 10, see col. 3, lines 61-62, also Fig. 1), comprising: a primary local oscillator (LO 20, see Fig. 1) that down-converts a received RF signal to a quadrature intermediate frequency (IF) signal (see col. 4, lines 8-10 and lines 57-59); and a dithering controller (this reads on the voltage controlled oscillator, see col. 4, lines 12-15) responsive to said quadrature IF signal generated by said primary LO for communicating a feedback signal back to said primary LO, said feedback signal

controlling an oscillation frequency of said primary LO (see col. 4, lines 52-56); wherein said dithering controller offsets down-conversion of said RF signal by said primary LO (col. 4, lines 8-15) from a zero-IF (examiner interpreting the value for "from a zero-IF" as 100 kHz, see col. 4, lines 8-12 and col. 3, lines 31-35, also lines 65-68) in order to reduce a phase and gain error of said quadrature IF signal (see abstract and col. 5, lines 18-27).

Claim 9 is rejected for the same reasons as discussed above with respect to claim 1. The claimed feature of "offsetting comprises dithering said primary LO over a plurality of hop frequencies in a predetermined hop sequence" reads on 100 kHz.

Regarding claims 2 and 10, Gehring teaches a phase and gain error measurement apparatus that measures a phase and gain error of said quadrature IF signal and generates a phase and gain error signal, wherein said dithering controller offset said primary LO based on said phase and gain error (this basically reads on AGC controlled RF amplifier 14 in combination with the AGC detector 15, see col. 3, lines 64-68 and col. 4, lines 1-5, see also, col. 5, lines 39-56).

Regarding claim 3, Gehring teaches the dithering controller (voltage controlled oscillator, see col. 4, lines 12-15) controls said primary LO (20) to step said quadrature IF signal in response to said phase and gain error signal (col. 5, lines 18-27).

Regarding claim 11, Gehring teaches stepping said primary LO by a predetermined frequency step to produce an IF that is offset from zero hertz (see col. 4, lines 65-68).

Claim 5 is rejected for the same reasons as discussed above with respect to claims 1 and 9.

Claim Rejections - 35 USC § 103

4. Claims 4, 6, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehring.

Gehring features are addressed in the above rejection.

Regarding claims 4 and 6, Gehring does not exactly teach a memory storing a predetermined step size that steps said primary LO away from current quadrature IF signal and a predetermined step limit that limits a stepping of said primary LO to a predetermined frequency range.

However, having a memory or a table within the memory that stores predefined numbers as a threshold, which drives away the signal every time it reaches that threshold is well known in the art. Obviously, having a table with threshold values will help to make any system function smoothly and without any errors.

Claims 17-20 are rejected for the same reasons as discussed above with respect to claim 7. Claim 19 recites " creating a plurality of quadrature IF frequency spectra". See Gehring, col. 4, lines 24-33.

Claims 13-16 basically read on the process of finding the outlier phase and gain error and removing the outlier phase and gain error. Gehring teaches setting up the signal frequency to a desired signal frequency in order to prevent any loss (see col. 4, lines 52-67). Obviously, when a signal is found in a phase and gain error state, logically it has to be either removed or corrected.

Response to Arguments

5. Applicant's arguments filed 6/15/2005 have been fully considered but they are not persuasive.

On page 7 of the remarks, applicant argues that applicant claims in independent claim 1 "repeated stepping of frequency at predetermined intervals". This limitation is not recited in the claim's language. Thus applicant is reading limitations into the claim's language.

Also, applicant argues "the gain control feedback described at col. 5, lines 18-27 of Gehring is not disclosed". Note that examiner referred the applicant to col. 4, lines 52-56. It appears that applicant is relying on the wrong citation.

Argument regarding claims 7-8 is moot.

Examiner believes that all other arguments are already addressed in the above rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rasha S AL-Aubaidi whose telephone number is (571) 272-7481. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad F. Matar, can be reached on (571) 272-7488.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner
Rasha S. Al-Aubaidi
Art Unit 2642
08/15/2005

AHMAD F. MATAR
SUPERVISORY PATENT EXAMINER
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